No. 790,929. PATENTED MAY 30, 1905.

W. SMITH.

LOOP COUPLING.

APPLICATION FILED DEC. 29, 1904.

Fig. 1.

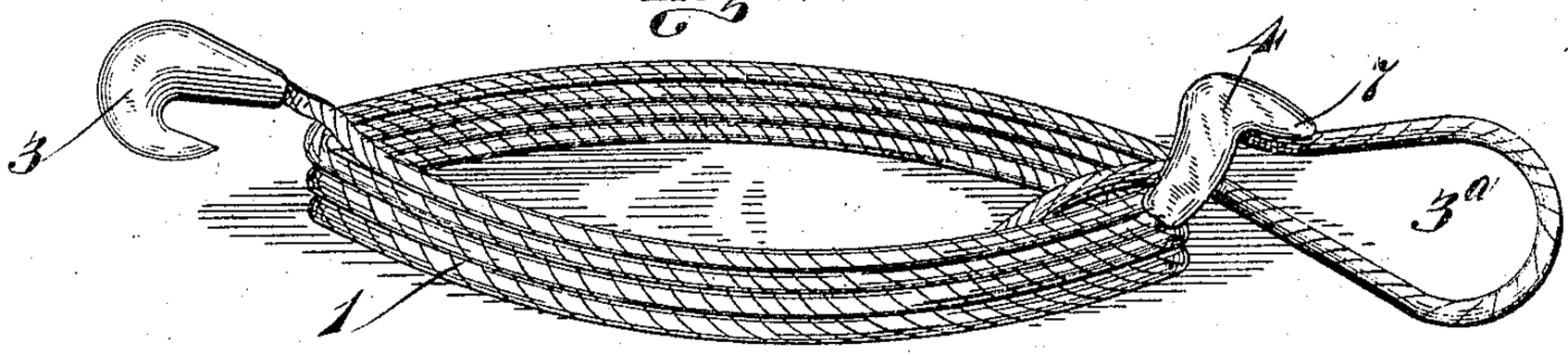


Fig. 2.

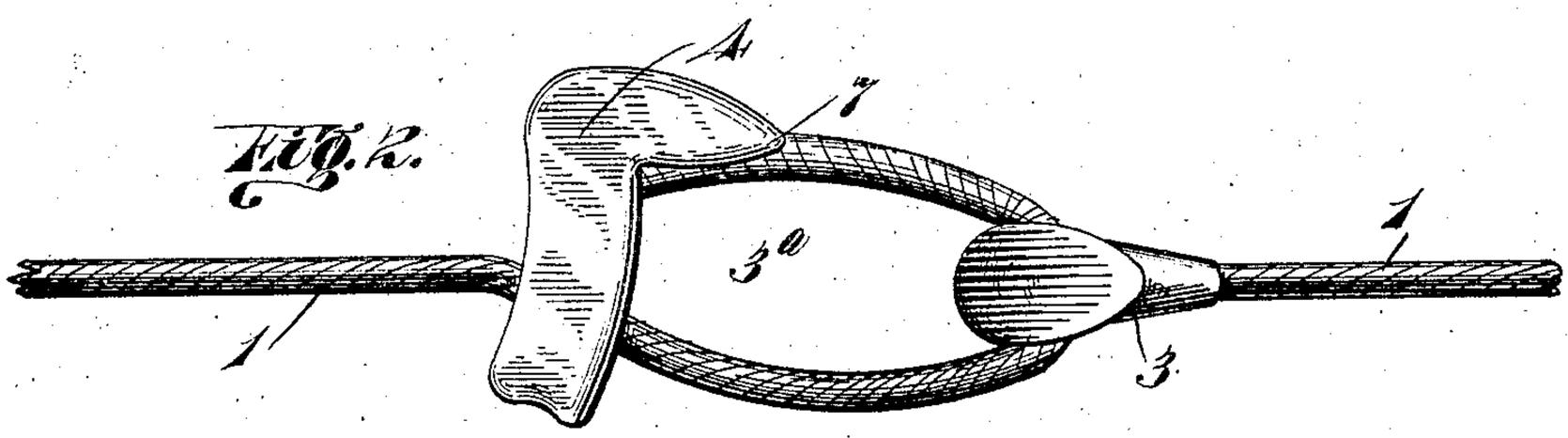


Fig. 3.

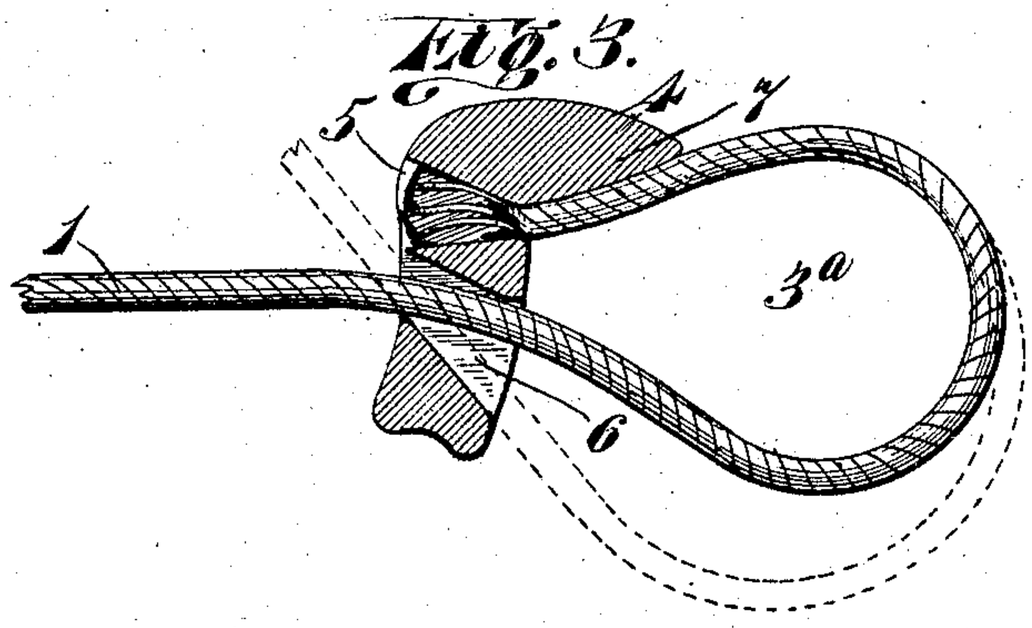


Fig. 4.

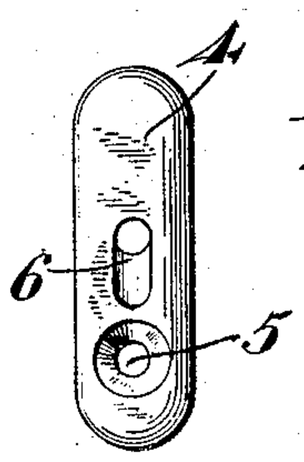
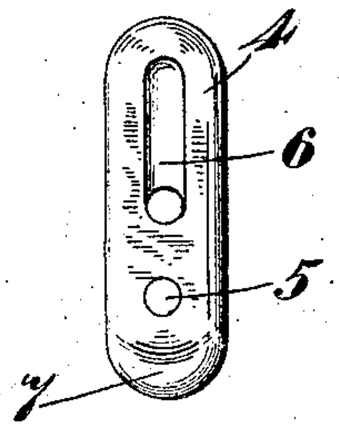


Fig. 5.



Witnesses
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No. 790,929. Patented May 30, 1905.

UNITED STATES PATENT OFFICE.

WILLIAM SMITH, OF LA CRESCENT, MINNESOTA.

LOOP-COUPLING.

SPECIFICATION forming part of Letters Patent No. 790,929, dated May 30, 1905.

Application filed December 29, 1904. Serial No. 238,825.

To all whom it may concern:

Be it known that I, WILLIAM SMITH, a citizen of the United States, residing at La Crescent, in the county of Houston and State of Minnesota, have invented certain new and useful Improvements in Loop-Couplers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a steel-wire-rope-coupling device for producing an expansion-loop upon the rope; and it is especially adapted for use in pulling stumps, trees, logs, buildings, &c.

In using wire rope coupled with loop and hook it has been found that where the rope is subjected to a heavy strain the loop pulls so tight around the hook that it is almost impossible to enlarge the loop, so as to remove it.

The object of my invention is to overcome the above objection, and I do so by providing a coupling-block so constructed and connected that a loop is formed on the end of a wire rope, which loop when it has been coupled onto a hook and drawn tightly around the same may be easily and quickly enlarged and removed because of the peculiar shape of the block and the spring or resilience of the wire rope.

With the above and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a view of a coil of wire rope or cable with my improvements applied thereto. Fig. 2 is an enlarged view of the ends of the wire rope, showing the loop loosely engaged with the hook. Fig. 3 is a sectional view through the loop-coupler, the loop being shown in two positions in full and dotted lines; and Figs. 4 and 5 are views of opposite ends of the loop-coupler with the rope removed therefrom.

Referring to the drawings by numeral, 1 denotes a steel-wire rope or cable having at one of its ends a hook 3 and at its other end a slip noose or loop 3^a, which is formed by means of my improved coupler or coupling-block 4. The latter, which is preferably of metal, has formed through it two transversely-extending openings 5 and 6. The opening 5 is substantially conical in form, and the opening 6 has two of its opposing side walls tapered in the same direction from opposite sides of said opening or hole 6, as clearly shown in the drawings. One end of the rope is secured in the opening 5 by passing said end through the small end of the opening, then uncoiling or untwisting the ends of the wires of which the rope is made, then turning or spreading them back in the larger portion of said opening 5, and then pouring melted Babbitt metal or other suitable material among the wire strands in order to firmly secure said end of the rope in said conical opening or hole. Before the rope is secured in the opening 5 or before the hook 3 is secured upon the other end of the rope the latter is first passed through the opening 6 to form the loop 3^a, as seen in Fig. 3 of the drawings. In order that the loop will pull straight on the hook and in a true line with the rope, the coupling-block is formed with a curved projecting portion or brace 7, which extends out along the rope and holds the loop true with the rope when the device is in use; otherwise during a heavy pull the loop would pull sidewise, and thereby injure the rope on the hook.

The use and advantages of my invention will be readily understood. It will be seen that by forming the opening 6 in the coupling-block, as shown—that is, with two of its opposing walls tapered in the same direction and the other two opposing walls substantially parallel—and by using a wire rope or cable that has some spring or resiliency the loop 3^a may be quick and easily loosened or disengaged from the hook or other object with which it is tightly engaged. The shape of the opening 6 permits the rope to move back freely to allow the loop to enlarge by reason of its spring or resiliency. It will be seen upon reference to Fig. 3 of the drawings that when the strain is removed from the

rope the loop will spring from its position shown in full lines to the position shown in dotted lines.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a device of the character described, the combination of a steel-wire rope, a hook attached to one end, and a loop held in form with a coupling-block on the other end.

2. In a device of the character described, the combination of a coupling-block having two holes through the center of the same, and a steel-wire rope attached to one hole and passed back through the other substantially at right angles with respect to the coupling-block thereby forming a loop.

3. In a device of the character described, the combination of a coupling-block having two oppositely-tapering holes through its center, a steel-wire rope secured in one hole and passed back through the other hole to form a loop, substantially as described and for the purpose set forth.

4. In a device of the character described, the combination of a loop-coupling block having two oppositely-tapering holes through the same and a projecting brace adjacent to one of said holes, one hole being substantially conical and the other hole having two sides tapering in the same direction from opposite sides of the block, and a steel-wire rope babbitted in said conical opening and passed freely through the other opening to form a loop, whereby the shape of the last-mentioned opening and the resiliency of the rope will permit said loop to enlarge when tension is removed from said cable, substantially as described.

5. A loop-coupling block formed with two oppositely-tapering openings, and a projecting portion adjacent to one of said openings, substantially as described and for the purpose set forth.

6. A device of the character described, comprising a block formed with oppositely-tapering openings and a flexible element passed loosely through one of said openings and having one of its ends secured in the other of said openings, substantially as described.

7. A device of the character described, comprising a block formed with oppositely-tapering openings and a projecting brace adjacent to one of said openings, and a cable passed loosely through one of said openings and having one of its ends engaged with said brace and secured in the other of said openings by separating the strands and inserting Babbitt metal or the like between them, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM SMITH.

Witnesses:
FRANK R. SMITH,
MARK V. SMITH.